

Gansner 1999-0730

IN THE CLAIMS:

1. (Currently Amended) A real-time large-scale visualization system comprising:
 - a visualization interface;
 - a plurality of processing tools;
 - means for accessing a plurality of data files that had been converted to a preselected uniform self-describing format that includes, in each data file, information about the file; and
 - means that enables streaming the data of said files to and through one or more of said processing tools, employing said information, to process the data and thereby create data results for updating one or more objects, which one or more objects may be are displayed by the visualization interface.
2. (Original) The invention of claim 1 wherein the visualization interface provides linked views of the data results.
3. (Original) The invention of claim 2 wherein the visualization interface is capable of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view, and a dynamic three-dimensional detailed view.
4. (Original) The invention of claim 1 wherein the visualization interface can access the data results as the processing tools are working on the data.
5. (Original) The invention of claim 1 wherein the visualization interface enables selection of a portion of the data results such that data corresponding to the portion selected may be accessed and processed in real-time to create second data results that are displayed on the visualization interface.
6. (Currently Amended) The invention of claim 1 wherein the processing tools enable[[s]] creation of new processing expressions that are compiled and dynamically linked to the processing tools.

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7. (Original) The invention of claim 1 wherein the data is accessed using Direct IO.

8. (Currently Amended) A method of visualizing large-scale data in real-time comprising the steps of:

accessing a plurality of data files that had been converted to a preselected uniform self-describing format that includes, in each data file, information about the file;

streaming data of the accessed data files to and through one or more processing tools, to process the data, utilizing the information to create data results for updating one or more objects, which one or more objects are adapted for display;
displaying said one or more objects on a visualization interface.

9. (Currently Amended) The invention of claim ~~1~~ 8 wherein the visualization interface provides linked views of the data results.

10. (Currently Amended) The invention of claim ~~2~~ 9 wherein the visualization interface is capable of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view, and a dynamic three-dimensional detailed view.

11. (Currently Amended) The invention of claim ~~4~~ 8 further comprising the step of converting provided data files having a format different from the preselected self-describing into said preselected self-describing format wherein the visualization interface can access the data results as the processing tools are working on the data.

12. (Currently Amended) The invention of claim ~~4~~ 8 wherein the visualization interface enables selection of a portion of the data results such that data corresponding to the portion selected may be accessed and processed in real-time to create second data results that are displayed on the visualization interface.

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13. (Currently Amended) The invention of claim 1 wherein the processing tools enable creation of new processing expressions that are compiled and dynamically linked to the processing tools.

14. (Currently Amended) The invention of claim 1 wherein the data is accessed using Direct IO.

15. (New) The system of claim 1 where at least some of the processing tools are processing pipelines.

16. (New) The invention of claim 1 further comprising means for converting applied data files having formats different from said preselected self-describing format into said preselected self-describing format.

17. (New) The invention of claim 8 further comprising the step of converting provided data files having a format different from the preselected self-describing into said preselected self-describing format.